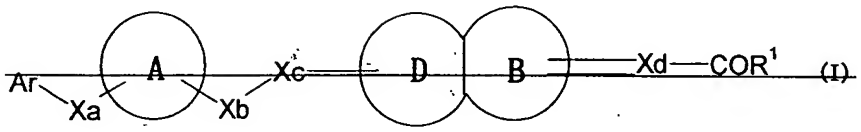
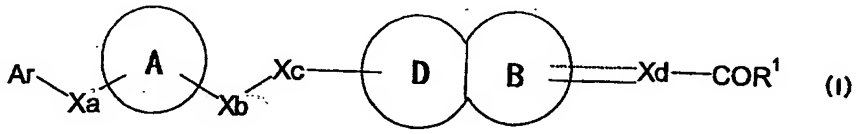
Amendments to the Claims

1. (Currently amended) A compound represented by the formula:





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wherein Ar is cyclopropyl, cyclohexyl, phenyl, naphthyl, thienyl, furyl, thiazolyl, oxazolyl, imidazolyl, pyrazolyl, triazolyl, pyridyl, pyrazinyl, benzo[b]thienyl, indolyl or indanyl ~~an optionally substituted cyclic group~~,

ring A is benzene which optionally has 1 to 5 substituent(s) at substitutable position(s) selected from

(1) halogen atom;

(2) hydroxy group;

(3) amino group;

(4) nitro group;

(5) cyano group;

(6) optionally substituted C_{1-6} alkyl group;

(7) optionally substituted C_{2-6} alkenyl group;

(8) optionally substituted C_{2-6} alkynyl group;

(9) C_{6-14} aryl group optionally substituted by 1 to 3 substituent(s) selected from halogen atom, hydroxy group, amino group, nitro group, cyano group, optionally halogenated C_{1-6} alkyl group, mono- or di-C_{1-6} alkyl-amino group, C_{6-14} aryl group, mono- or di-C_{6-14} aryl-amino group, C_{3-8} cycloalkyl group, C_{1-6} alkoxy group, C_{1-6} alkoxy-C_{1-6} alkoxy group, C_{1-6} alkylthio group, C_{1-6} alkylsulfinyl group, C_{1-6} alkylsulfonyl group, optionally esterified carboxyl group, carbamoyl group, thiocarbamoyl group, mono- or di-C_{1-6} alkyl-carbamoyl group, mono- or di-C_{6-14} aryl-

carbamoyl group, sulfamoyl group, mono- or di-C_{1-6} alkyl-sulfamoyl group and mono- or di-C_{6-14} aryl-sulfamoyl group;

(10) C_{6-14} aryloxy group optionally substituted by 1 to 3 substituent(s) selected from halogen atom, hydroxy group, amino group, nitro group, cyano group, optionally halogenated C_{1-6} alkyl group, mono- or di-C_{1-6} alkyl-amino group, C_{6-14} aryl group, mono- or di-C_{6-14} aryl-amino group, C_{3-8} cycloalkyl group, C_{1-6} alkoxy group, C_{1-6} alkoxy-C_{1-6} alkoxy group, C_{1-6} alkylthio group, C_{1-6} alkylsulfinyl group, C_{1-6} alkylsulfonyl group, optionally esterified carboxyl group, carbamoyl group, thiocarbamoyl group, mono- or di-C_{1-6} alkyl-carbamoyl group, mono- or di-C_{6-14} aryl-carbamoyl group, sulfamoyl group, mono- or di-C_{1-6} alkyl-sulfamoyl group and mono- or di-C_{6-14} aryl-sulfamoyl group;

(11) C_{7-16} aralkyloxy group optionally substituted by 1 to 3 substituent(s) selected from halogen atom, hydroxy group, amino group, nitro group, cyano group, optionally halogenated C_{1-6} alkyl group, mono- or di-C_{1-6} alkyl-amino group, C_{6-14} aryl group, mono- or di-C_{6-14} aryl-amino group, C_{3-8} cycloalkyl group, C_{1-6} alkoxy group, C_{1-6} alkoxy-C_{1-6} alkoxy group, C_{1-6} alkylthio group, C_{1-6} alkylsulfinyl group, C_{1-6} alkylsulfonyl group, optionally esterified carboxyl group, carbamoyl group, thiocarbamoyl group, mono- or di-C_{1-6} alkyl-carbamoyl group, mono- or di-C_{6-14} aryl-carbamoyl group, sulfamoyl group, mono- or di-C_{1-6} alkyl-sulfamoyl group and mono- or di-C_{6-14} aryl-sulfamoyl group;

(12) heterocyclic group (preferably furyl, pyridyl, thienyl, pyrazolyl, thiazolyl, oxazolyl) optionally substituted by 1 to 3 substituent(s) selected from halogen atom, hydroxy group, amino group, nitro group, cyano group, optionally halogenated C_{1-6} alkyl group, mono- or di-C_{1-6} alkyl-amino group, C_{6-14} aryl group, mono- or di-C_{6-14} aryl-amino group, C_{3-8} cycloalkyl group, C_{1-6} alkoxy group, C_{1-6} alkoxy-C_{1-6} alkoxy group, C_{1-6} alkylthio group, C_{1-6} alkylsulfinyl group, C_{1-6} alkylsulfonyl group, optionally esterified carboxyl group, carbamoyl group, thiocarbamoyl group, mono- or di-C_{1-6} alkyl-carbamoyl group, mono- or di-C_{6-14} aryl-carbamoyl group, sulfamoyl group, mono- or di-C_{1-6} alkyl-sulfamoyl group and mono- or di-C_{6-14} aryl-sulfamoyl group;

(13) mono- or di-C_{1-6} alkyl-amino group;

(14) mono- or di-C_{6-14} aryl-amino group;

(15) mono- or di-C_{7-16} aralkyl-amino group;

(16) N-C_{1-6} alkyl-N-C_{6-14} aryl-amino group;

(17) N-C_{1-6} alkyl-N-C_{7-16} aralkyl-amino group;

(18) C_{3-8} cycloalkyl group;

(19) optionally substituted C_{1-6} alkoxy group;

(20) C_{1-6} alkylthio group;

(21) C_{1-6} alkylsulfinyl group;

(22) C_{1-6} alkylsulfonyl group;

(23) optionally esterified carboxyl group;

(24) C_{1-6} alkyl-carbonyl group;

(25) C_{3-8} cycloalkyl-carbonyl group;

(26) C_{6-14} aryl-carbonyl group;

(27) carbamoyl group;

(28) thiocarbamoyl group;

(29) mono- or di-C_{1-6} alkyl-carbamoyl group;

(30) mono- or di-C_{6-14} aryl-carbamoyl group;

(31) mono- or di-5- to 7-membered heterocyclyl-carbamoyl group;

(32) sulfamoyl group;

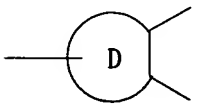
(33) mono- or di-C_{1-6} alkyl-sulfamoyl group;

(34) mono- or di-C_{6-14} aryl-sulfamoyl group; ~~a ring optionally further substituted (provided that the ring is not thiazole, oxazole, imidazole and pyrazole),~~

Xa ~~and Xb are each independently~~ is a bond or a spacer having a main chain of 1 to 5 atom(s),

Xb is $(CH_2)_n$ wherein n is 1 or 2,

Xc is O, ~~S, SO or SO_2,~~



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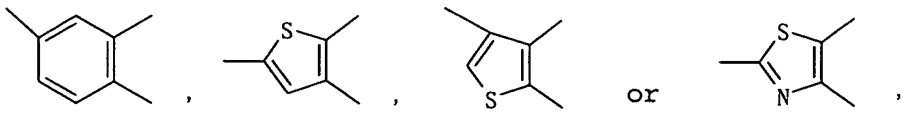


ring B is a 5- to 7-membered ring,

Xd is a bond, CH or CH_2,

$\cdots\cdots$ is a single bond when Xd is a bond or CH_2, or a double bond when Xd is CH,

R^1 is ~~an optionally substituted~~ a hydroxy group or $C_{1\text{-}10}$ alkoxy group,

provided that

~~(i) when ring A is benzene, the cyclic group represented by Ar is not a quinolinyl group,~~

~~(ii)~~ (i) when ring B is a 5- to 7-membered aromatic ring, the ring represented by ring A is not thiophene and furan,

~~(iii)~~ (ii) when ring B is benzene, the ring represented by ring A is not 5-membered aromatic heterocycle, and

~~(iv)~~ (iii) when ring B is cyclohexane, Xd is not a bond,

provided that

[6-(4-biphenylyl)methoxy-2-tetralin]acetic acid;

methyl [6-(4-biphenylyl)methoxy-2-tetralin]acetate;

[7-(4-biphenylyl)methoxy-1,2,3,4-tetrahydro-2-oxo-3-quinoline]acetic acid; and

methyl [7-(4-biphenylyl)methoxy-1,2,3,4-tetrahydro-2-oxo-3-quinoline]acetate are excluded,

or a salt thereof.

2. (Cancelled)

3. (Original) The compound of claim 1, wherein the cyclic group represented by Ar is an aromatic hydrocarbon group.

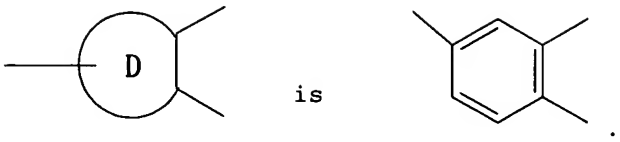
4. (Original) The compound of claim 1, wherein Xa is a bond.

5. (Original) The compound of claim 1, wherein ring A is benzene.

6. (Original) The compound of claim 1, wherein Xb is $-CH_2-$.

7. (Cancelled)

8. (Original) The compound of claim 1, wherein



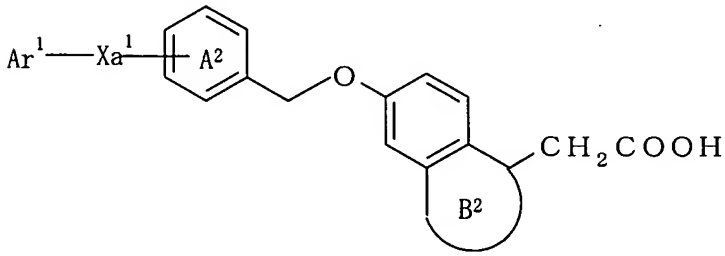
9. (Original) The compound of claim 1, wherein ring B is a 5- to 7-membered non-aromatic ring.

10. (Original) The compound of claim 9, wherein ring B is cyclopentane or tetrahydrofuran.

11. (Original) The compound of claim 1, wherein Xd is CH_2.

12. (Original) The compound of claim 1, wherein R^1 is a hydroxy group.

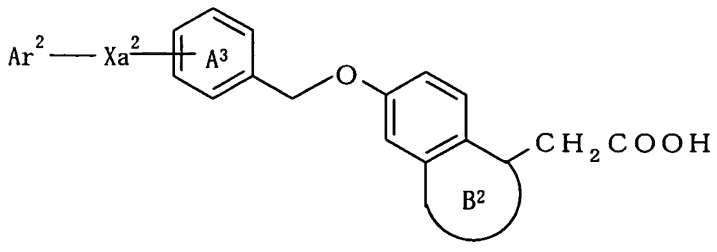
13. (Currently amended) The compound of claim 1, which is represented by the formula:



(I − 2)

wherein Ar^1 is ~~an optionally substituted~~ phenyl group or ~~optionally substituted~~ indanyl group,
Xa^1 is a bond or a spacer having a main chain of 1 to 5 atom(s),
ring A^2 is ~~a~~ benzene ~~ring~~ which optionally ~~further~~ is substituted by said 1 to 5 substituent(s), and
ring B^2 is a 5- to 7-membered ring.

14. (Currently amended) The compound of claim 1, which is represented by the formula:



(I − 4)

wherein Ar^2 is ~~an optionally substituted~~ thiazolyl group,

Xa^2 is a bond or a spacer having a main chain of 1 to 5 atom(s),

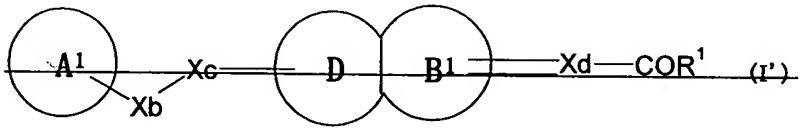
ring A^3 is ~~a~~ benzene ~~ring~~ which optionally ~~further~~ is substituted by said 1 to 5 substituent(s), and

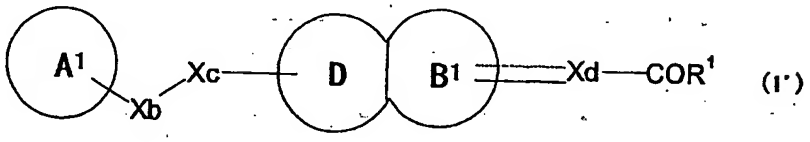
ring B^2 is a 5- to 7-membered ring.

15. (Currently amended) A pharmaceutical ~~agent~~ composition comprising the compound of claim 1 with a pharmacologically acceptable carrier ~~or a prodrug thereof~~.

16-17. (Cancelled)

18. (Currently amended) A GPR40 receptor function modulator comprising a compound represented by the formula:





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wherein ring A^1 is benzene which optionally has 1 to 5 substituent(s) at substitutable position(s) selected from

(1) halogen atom;

(2) hydroxy group;

(3) amino group;

(4) nitro group;

(5) cyano group;

(6) optionally substituted C_{1-6} alkyl group;

(7) optionally substituted C_{2-6} alkenyl group;

(8) optionally substituted C_{2-6} alkynyl group;

(9) C_{6-14} aryl group optionally substituted by 1 to 3 substituent(s) selected from halogen atom, hydroxy group, amino group, nitro group, cyano group, optionally halogenated C_{1-6} alkyl group, mono- or di-C_{1-6} alkyl-amino group, C_{6-14} aryl group, mono- or di-C_{6-14} aryl-amino group, C_{3-8} cycloalkyl group, C_{1-6} alkoxy group, C_{1-6} alkoxy-C_{1-6} alkoxy group, C_{1-6} alkylthio group, C_{1-6} alkylsulfinyl group, C_{1-6} alkylsulfonyl group, optionally esterified carboxyl group, carbamoyl group, thiocarbamoyl group, mono- or di-C_{1-6} alkyl-carbamoyl group, mono- or di-C_{6-14} aryl-carbamoyl group, sulfamoyl group, mono- or di-C_{1-6} alkyl-sulfamoyl group and mono- or di-C_{6-14} aryl-sulfamoyl group;

(10) C_{6-14} aryloxy group optionally substituted by 1 to 3 substituent(s) selected from halogen atom, hydroxy group, amino group, nitro group, cyano group, optionally halogenated C_{1-6} alkyl group, mono- or di-C_{1-6} alkyl-amino group, C_{6-14} aryl group, mono- or di-C_{6-14} aryl-amino group, C_{3-8} cycloalkyl group, C_{1-6} alkoxy group, C_{1-6} alkoxy-C_{1-6} alkoxy group, C_{1-6} alkylthio group, C_{1-6} alkylsulfinyl group, C_{1-6} alkylsulfonyl group, optionally esterified carboxyl group, carbamoyl group, thiocarbamoyl group, mono- or di-C_{1-6} alkyl-carbamoyl group, mono- or di-C_{6-14} aryl-carbamoyl group, sulfamoyl group, mono- or di-C_{1-6} alkyl-sulfamoyl group and mono- or di-C_{6-14} aryl-sulfamoyl group;

(11) C_{7-16} aralkyloxy group optionally substituted by 1 to 3 substituent(s) selected from halogen atom, hydroxy group, amino group, nitro group, cyano group, optionally halogenated C_{1-6} alkyl group, mono- or di-C_{1-6} alkyl-amino group, C_{6-14} aryl group, mono- or di-C_{6-14} aryl-amino group, C_{3-8} cycloalkyl group, C_{1-6} alkoxy group, C_{1-6} alkoxy-C_{1-6} alkoxy group, C_{1-6} alkylthio group, C_{1-6} alkylsulfinyl group, C_{1-6} alkylsulfonyl group, optionally esterified carboxyl group, carbamoyl group, thiocarbamoyl group, mono- or di-C_{1-6} alkyl-carbamoyl group, mono- or di-C_{6-14} aryl-carbamoyl group, sulfamoyl group, mono- or di-C_{1-6} alkyl-sulfamoyl group and mono- or di-C_{6-14} aryl-sulfamoyl group;

(12) heterocyclic group (preferably furyl, pyridyl, thienyl, pyrazolyl, thiazolyl, oxazolyl) optionally substituted by 1 to 3 substituent(s) selected from halogen atom, hydroxy group, amino group, nitro group, cyano group, optionally halogenated C_{1-6} alkyl group, mono- or di-C_{1-6} alkyl-amino group, C_{6-14} aryl group, mono- or di-C_{6-14} aryl-amino group, C_{3-8} cycloalkyl group, C_{1-6} alkoxy group, C_{1-6} alkoxy-C_{1-6} alkoxy group, C_{1-6} alkylthio group, C_{1-6} alkylsulfinyl group, C_{1-6} alkylsulfonyl group, optionally esterified carboxyl group, carbamoyl group, thiocarbamoyl

group, mono- or di-C_{1-6} alkyl-carbamoyl group, mono- or di-C_{6-14} aryl-carbamoyl group, sulfamoyl group, mono- or di-C_{1-6} alkyl-sulfamoyl group and mono- or di-C_{6-14} aryl-sulfamoyl group;

(13) mono- or di-C_{1-6} alkyl-amino group;

(14) mono- or di-C_{6-14} aryl-amino group;

(15) mono- or di-C_{7-16} aralkyl-amino group;

(16) N-C_{1-6} alkyl-N-C_{6-14} aryl-amino group;

(17) N-C_{1-6} alkyl-N-C_{7-16} aralkyl-amino group;

(18) C_{3-8} cycloalkyl group;

(19) optionally substituted C_{1-6} alkoxy group;

(20) C_{1-6} alkylthio group;

(21) C_{1-6} alkylsulfinyl group;

(22) C_{1-6} alkylsulfonyl group;

(23) optionally esterified carboxyl group;

(24) C_{1-6} alkyl-carbonyl group;

(25) C_{3-8} cycloalkyl-carbonyl group;

(26) C_{6-14} aryl-carbonyl group;

(27) carbamoyl group;

(28) thiocarbamoyl group;

(29) mono- or di-C_{1-6} alkyl-carbamoyl group;

(30) mono- or di-C_{6-14} aryl-carbamoyl group;

(31) mono- or di-5- to 7-membered heterocyclyl-carbamoyl group;

(32) sulfamoyl group;

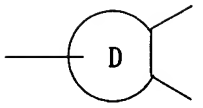
(33) mono- or di-C_{1-6} alkyl-sulfamoyl group;

(34) mono- or di-C_{6-14} aryl-sulfamoyl group;

~~an optionally substituted ring,~~

Xb is ~~a bond or a spacer having a main chain of 1 to 5 atom(s)~~ $(CH_2)_n$ wherein n is 1 or 2,

Xc is O, ~~S, SO or SO_2,~~



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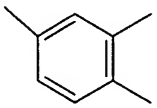
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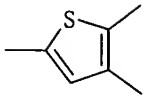

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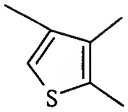

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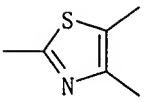

,

ring B^1 is a 5- to 7-membered non-aromatic ring,

Xd is a bond, CH or CH_2,

<u>· · · · · ·</u> is a single bond when Xd is a bond or CH_2, or a double bond when Xd is CH, and

R^1 is ~~an optionally substituted~~ <u>a</u> hydroxy group <u>or a C_{1-10} alkoxy group</u>, or a salt thereof~~, or a prodrug thereof~~.

19-20. (Cancelled)

21. (New) A method for the prophylaxis or treatment of diabetes, which comprises administering a therapeutically effective amount of the compound of claim 1 to a patient in need thereof.

22. (New) A method for promoting insulin secretion, which comprises administering a therapeutically effective amount of the compound of claim 1 to a patient in need thereof.

23. (New) A method of modulating GPR40 receptor function, which comprises administering a therapeutically effective amount of the compound of claim 1 to a patient in need thereof.